Meeting Minutes
Decommissioning Community Workgroup Meeting (#16)
Tuesday, July 22, 2003
Huron Public Library

The meeting began at 7 p.m. Present were the following Workgroup members: Janet Bohne; Mark Bohne; Jeff Fantozzi; Rick Graham; Ralph Roshong; Bob Speers; Stan Taylor and Bill Walker. Also present were: Tim Polich, Keith Peecook, Sally Harrington, Mike Blotzer and Peter Kolb of NASA; Mike Fulford and Steve Neilson of the U.S. Army Corps of Engineers (USACE); Al Solano and Norm Gadzinski of Montgomery Watson Harza (MWH) and Steve Larsen of Wachs Technical Services. There were approximately 10 members of the public in attendance, including NASA retirees Len Homyak, Jim Maartz and Ruth Hasse.

NASA Decommissioning Project Manager Tim Polich began the meeting with welcoming remarks and introductions, thanking Workgroup members for their continuing participation. He noted that there were now 150 people working on site on decommissioning and that Wes Watson, formerly the USACE Resident Manager, had moved on to a new assignment and had been replaced by Mike Fulford. He also noted that Jeff LeBlanc, who had been the MWH Project Manager, has moved on to a new assignment and that his successor (Jim Crocker) would be coming aboard later in the week. Tim pointed out that Jim Crocker has nuclear facility experience, such that "we keep improving the experience level (on the project) and I think that's a positive."

Susan Santos of FOCUS GROUP requested and received approval of the April meeting minutes and reviewed the July agenda, then introduced NASA Senior Project Engineer Keith Peecook, who provided a Project Update.

Project Update

Keith reported that the preparation for segmentation activity was now complete, including the delivery of stainless steel cask liners that will hold cut pieces of the reactor internals and tank, with staging taking place in the containment vessel area of the Reactor Facility. He also noted that "mock-up" training on components that simulate those in the reactor tank was ongoing, as was training on the Mock-up Reactor (MUR) that had operated conterminously with the larger test reactor at Plum Brook Station. Because the MUR had been constructed as a 95% accurate replica of the main test reactor – and operated with radiation levels thousands of time lower than the main test reactor – Keith said working on the MUR was giving the crew from subcontractor Wachs Technical Services the opportunity to refine its tooling and procedures in a virtual "no dose" environment.

Keith explained that the project received a go-ahead at an Operational Readiness Review (ORR) held at Plum Brook Station on June 24, noting that at a previous ORR last November it was apparent that NASA had to reengineer segmentation work in order to substantially lower potential worker radiation exposure levels. He further said that loose equipment removal was complete in several areas of the Reactor Facility (Reactor Office/Lab, Services Equipment, Gas Storage and Waste Effluent Monitoring Station - Buildings) while continuing in many more buildings and areas (Waste Handling and Compressor Buildings, Fan House and Hot Labs). Keith also reported that four days earlier, NASA had sent a shipment (consisting of 6 B-25 containers filled with loose and fixed equipment) to the Alaron waste reprocessing facility in Pennsylvania and that 20

Sealand containers – "each almost as big as a semi-trailer" – and 12 more B-25's were ready to be shipped once the waste turnkey contracts were in place.

Keith said that the recent awarding of "turnkey" waste handling contracts to Envirocare (of Utah) and Alaron would ensure that NASA would have at hand the reprocessing services and waste dispels space necessary for the duration of the Decommissioning Project. He anticipated that the frequency of shipments would increase over the summer, to possibly as many as two trucks per day. Susan Santos noted that as soon as a shipment arrives safely at its destination, NASA is putting this information on the 24-hour, toll-free Decommissioning Information Line – and that NASA would continue to coordinate all shipments with local and county authorities.

Keith mentioned that NASA is doing a cleanup of fluorescent light tubes and ballasts (the latter are full of PCB's and oil) with these items to be disposed of as hazardous waste. He added that subcontractor Toltest is conducting ongoing asbestos stabilization and removal, with removal completed in the Services Equipment and Compressor Buildings, and stabilization ongoing in the Reactor Office Lab and Reactor Buildings.

Finally, Keith said that NASA is considering a new sequence for the final steps of the project. The original plan has NASA completing radiological, industrial hygiene and environmental cleanups, conducting the Final Site Survey for the U.S. Nuclear Regulatory Commission (NRC), then demolishing all structures and backfilling holes in the ground with clean hard fill and finally, terminating the license with the NRC. A possible new approach, Keith said would have NASA complete the radiological cleanups, conduct a Final Site Survey, terminate the license and then – post termination – conduct demolition and backfilling operations. He stressed that, either way, NASA would maintain the same ultimate cleanup level of 25 millirem (the "resident farmer" standard that would allow people to live on the former reactor site, drink groundwater from the site and eat crops grown on the site). Keith noted that the difference between the two approaches would be that under the new approach, NASA would not need to dispose of demolition debris as low-level radioactive waste.

Keith explained that demolition debris would result in three material "streams," consisting of: construction and demolition (C&D) debris; clean hard fill and structural steel. He said C&D debris includes wood, plaster, drywall, ceiling tiles water pipes, flooring and windows – with an estimated total of 6,100 cubic yards that could be sent to facilities such as the Wood County Landfill. He added that clean hard fill is defined as concrete, masonry and asphalt There is an estimated of 7,000 cubic yards of concrete and he noted that the need for clean hard fill below grade is estimated at some 50,000 cubic yards. He added that asphalt would not be used as fill but will be sent to a licensed C&D landfill. Keith also said that demolition would amount to about 600 cubic yards of structural steel, which would be sent to a recycling facility.

Workgroup member Mark Bohne, (who is also citizen co-chair of the Remediation Advisory Board for the former Army Ordnance Works at Plum Brook Station), said composting work on the latter project could result in a surplus of clean hard fill. He encouraged Keith to get in touch with USACE Project Manager Rick Meadows regarding possible acquisition of some fill.

Following Keith's presentation, Janet Bohne asked about lost time accidents during decommissioning, adding that a member of the public had asked her. Keith mentioned three incidents, one involving a worker who injured his finger with a crowbar, another who suffered back strain and some who had suffered bee stings. USACE Resident Manager Mike Fulford said the worker who had the back strain also had previously had back injuries and stressed that "We

take quality assurance very seriously…we're looking at our procedures and how to screen workers (for injuries)".

Steve Neilson of USACE said that these few injuries had occurred during more than 200,000 hours of work on the project, and Keith noted that while "radiation gets everyone's attention" there are "historically more OSHA related injuries" on decommissioning projects. Janet also asked about confined space accidents, with Keith noting that there had been none because "our controls (in place) on confined space are good."

Segmentation Plan & Activities

Al Solano, the Segmentation Task Manager for Montgomery Watson Harza, followed with an in-depth presentation on segmentation activities. He noted that he has 15 years of experience in decommissioning commercial nuclear reactors and formerly worked for Wachs, adding that the project's Segmentation Team consists of MWH, Wachs and subcontractors MOTA Corp. and Framatome, both of which are radiological specialists. He explained the phases involved in the project's Segmentation Plan and the anticipated duration of each:

Phase	**Duration**
0 - Set-up & Preparation	6/26/03-7/18/03
1- Removal of Horizontal Beam Tubes	7/21/03-8/14/03
1A- Removal of Internals Above the Core Region of the Reactor	8/15/03-9/19/03
2- Removal of Internals at the Core Region	9/22/03-1/12/04
3- Removal of Internals Below the Core Region	1/13/04-2/17/04
4 - Actual Segmentation of the Reactor Vessel	2/18/04-6/21/04
5 - Cleanup and Demobilization	6/24/04-7/16/04

Al explained that NASA's revised Segmentation Plan involves removing certain reactor components – three Horizontal Beam Tubes (through which materials used in radiation experiments had been funneled when the reactor was operational) – first, in order to remove one of the potentially largest sources of radiation remaining in the Reactor Facility. Keith added that by the end of February 2004, "the hottest stuff" (including all reactor components and the vessel) will be gone."

Al introduced Steve Larsen of Wachs, the engineer who designed the tools to be used during segmentation, and then discussed the Segmentation Plan, which includes a packaging plan for the cut pieces of the reactor internal components and tank. He noted that the plan stresses detail on each item, its packaging type, weight, load date, which steel liner into which the piece would be placed and its destination. Janet Bohne asked how the crew would "keep track of all this" with Al responding that they would take handwritten notes and transpose them onto a spreadsheet "that goes with the shipment." Keith added that the Decommissioning Team has continued to work with NASA retirees who have been a great help in identifying reactor internal components and

what was involved in operating long handled tools, which are being used on the Mock-up Reactor.

Al then discussed a number of preparatory steps that the segmentation crew had taken before the work could begin. These included several design changes, as well as modifications to the 20-ton shrapnel shield that once covered the reactor vessel. Changes included cutting the shield over the top of the reactor dome and cutting out an 18-inch circle for the ventilation system. He also addressed several "administrative milestones:" that had to be achieved before work could begin. These included not only the Operational Readiness Reviews in November 2002 and April 2003, but also a "Dose Summary " (which is 24 Rem for the entire segmentation process) for expected exposure levels during segmentation of the reactor tank and the actual Segmentation Plan (both submitted in May 2003). He noted that a number of stainless steel liners, which will hold cut pieces of the reactor internals and tank, had been delivered to Plum Brook Station in a special cask. Al added that NASA had obtained disposal permits for all the materials cut and removed during segmentation.

Al also addressed several safety preparation steps and procedures that had been completed. Then he discussed at length the process and important procedures developed to ensure that the radiation doses to which segmentation workers are exposed will be As Low As Reasonably Achievable (ALARA). These ALARA procedures, he said, involved:

- A detailed Scope of Work for each phase of segmentation
- A Radiological Work Permit
- Estimated doses based on available survey data
- Performing an ALARA Review
- Integrating ALARA planning into a Work Execution Plan and Radiological Work Permit
- Obtain approval for segmentation work after review by the ALARA Committee

He added that a Job Safety Analysis had to be prepared for each phase of segmentation work.

Al then talked about how ALARA considerations prompted work on mock-ups of the Horizontal Beam Tubes and modified shrapnel shields. These mock-ups are being used to train workers and reduce the dose they were likely to face during segmentation work, and are also being used to verify operational sequences and times. He noted that initial dose estimates for workers were based on the reactor tank entries in November 2002 and April 2003, during which a crew used remote instruments to take radiation readings inside and around the reactor tank. Further, he said that a detailed work breakdown has been completed, which includes time and dose estimates for all phases of segmentation and added that the procedures developed provide for "hold points" and controls on tasks for which workers may face significant radiological hazards.

Al also described several support systems and additional procedures have been put in place for segmentation. Support systems include special ventilation system in the containment vessel area, a Cask Transfer System for moving cut pieces of the reactor internals and tank into and out of a designated holding area, a dosimetry system for tracking worker exposure and monitors for tritium during an important step in the segmentation process - the removal of beryllium plates from the reactor. He also said that specified engineering controls for preventing/controlling airborne contamination have been put into place and that special procedures are being developed for removal of the beryllium plates. He noted that Tony Dull of Framatome went to the Toltest (another subcontractor) facility in Connecticut the day of the Workgroup meeting to check out a new procedure for immobilizing the beryllium plates, in order to keep them from cracking during

the removal process. The plates will be placed in a cask for shipping and disposal, along with the other reactor components, at the licensed facility in Barnwell, SC.

Al showed slides of special work tables and tools that will enable workers to pull out the entire plate, and of workers conducting mock-up exercises. He pointed out that all workers will actually be looking at video monitors during segmentation (instead of at the reactor tank itself) and noted that a Wachs crew is working on the Mock-up Reactor in order to better test the beryllium plate removal procedure in an environment where the highest dose is just 4 millirem (while the dose from the Horizontal Beam Tubes is about 400 Rem).

Al ended his presentation by showing some actual footage of the reactor tank entry, and photos of the main test reactor, including the Horizontal Beam Tubes. The visuals helped bring home the impact of the actual segmentation work that was about to begin. Janet Bohne asked if the Segmentation Plan could be posted on the Decommissioning Website. Tim Polich noted that the plan is very large, so Susan Santos suggested that NASA could post the six phases of segmentation, along with a brief description of each, on the website. Keith and Al talked about the placement of video cameras during the preparations for segmentation and the actual process. Keith said that the camera system would cover nine or ten locations since the number of people working in the containment vessel is very limited. Susan Santos asked if clips of the segmentation process were something the Workgroup wanted to see, with members responding affirmatively.

After Al's presentation, Janet Bohne asked about local hiring on the Decommissioning Project. Norm Gadzinski of MWH said that the company had recently revisited a list of local businesses that have been utilized thus far; but a representative from Labor Union Local 480 (Sandusky) - Drew Gundlach - said he had made an inquiry and had not received a response. Norm said the union needed to discuss a project Specific Site Agreement with MWH as the project's prime contractor and that he had spoken with a senior union representative about the agreement. Drew Gundlach noted that he had written to Congresswoman Marcy Kaptur, whose office had inquired about local business and employee utilization on the Decommissioning Project, but said he had not received a response from her office.

Tim and Norm then reviewed the information that had been sent to the Congresswoman's office in early July. Tim said there had been 37 local hires on the project workforce (but no indication that any were union workers), and that more than 30 Ohio business (including nearly 20 from Sandusky) have been utilized by NASA during the Decommissioning Project. Janet suggested that information on local hiring be posted on the Website. [Note: Since 2001, the Frequently Asked Questions on the Decommissioning Website include information on local job and contracting opportunities.] Tim also observed that, since NASA was now considering the termination of its NRC license before undertaking demolition work at the end of the project (in 2006 & 2007), there might be opportunities for local demolition contractors and truck drivers.

Community Relations Update

Sally Harrington provided a Community Relations update, noting that in May, NASA had mailed to more than 2,100 recipients a new version of the postcard magnet combination (this one including the Information Line number). She also said the July newsletter had been mailed to the same list of recipients and Workgroup members indicated they had received this recent edition. Sally then noted that the Project Website now contains a new feature: a mailbox that website visitors can use to ask questions of, or leave comments for, NASA. Sally added that NASA is

also undertaking a quarterly review of the website and planning for major revisions that will provide more visuals (including video clips) and an interactive survey that interested visitors can complete. She also said that the website's Frequently Asked Questions would be updated, as would an article on the Workgroup in the special supplement that was published in the Sandusky Register and Norwalk Reflector in May 2002. The new article would be posted on the website's Community Relations page. Because the new article would contain photos of Workgroup members, Sally asked those present if they approved of their photos (such as the ones that have been used in Workgroup profiles in the newsletter) being used on the website, and the members gave their approval.

Susan Santos said the annual Community Information Session (CIS) would be held at the Sandusky High School cafeteria on Tuesday, October 21, starting at 7:30 p.m. There will be a Workgroup meeting at 5:30 in the same location, with a light supper offered to members before and during the meeting. She also noted NASA's intention to have the hour-long Historical Documentary Video on the Reactor Facility ready for viewing at the CIS, adding that there would be a Media Briefing at Plum Brook Station on Monday, October 20, as a way of promoting the CIS and updating the media on recent project achievements. In addition, Susan said NASA is producing a special edition of the October newsletter that will be larger in size and feature a color photo centerfold depicting work that has been completed. Janet Bohne said she was pleasantly surprised at the number of people who have told her they receive and read the newsletter.

Sally and Keith mentioned new activity at Plum Brook Station that does not involve decommissioning. Sally noted that a new cryogenics laboratory will be built adjacent to the Plum Brook "K-Site" facility, a replacement for the cryogenics facility that has been operating at the NASA Glenn Research Center – but whose land is being taken for new construction at Hopkins International Airport. Keith added that the Space Power Facility at Plum Brook is being used for new tests for landing an unmanned vehicle inside a crater on Mars.

Susan asked the Workgroup for suggestions on topics for fact sheets and newsletter articles and Mark Bohne mentioned sharing information on relative radiation levels. Susan also noted that Lana Wood has left the Workgroup, having relocated to Cincinnati for a new job and that the Workgroup should consider adding three to four new members and mentioned four people that NASA planned to invite: Betty Irby (a guidance counselor at Jackson Junior High School in Sandusky); Janine Ruffing (head of the Parent Teacher Organization at the Monroe Elementary School in Sandusky); Mary Warren (head of the Firelands Audubon Society) and Montez McDuffie (principal of the Venice Heights Elementary School in Sandusky). Susan asked for and received approval from the Workgroup for Tim to call these nominees and invite them to join, while also encouraging Workgroup members to let NASA know of other suggestions.

Susan said that the next Workgroup meeting would be used to provide a general update on the project. Mark Bohne asked about having Bob Posik, the project's waste handling manager, discuss the progress of waste handling and disposal, observing, "It's what most people will think about." Susan said a brief presentation on the topic could be part of the next meeting while Keith said that, from now on, NASA would give Workgroup members a running total of waste shipments at each meeting. Susan said that NASA would undertake an extensive community outreach effort to support the CIS, adding that she hoped the documentary video would be a draw for NASA retirees and their families. She encouraged Workgroup members to promote the CIS.

The meeting adjourned at 9 p.m.